UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,685	09/17/2003	Harumi Aoishi	Q77511	2446

23373 7590 02/23/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
RENNER, CRAIG A	

ART UNIT	PAPER NUMBER
2652	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/663,685	AOISHI, HARUMI	
	Examiner	Art Unit	
	Craig A. Renner	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06 February 2006 has been entered.

Drawings

2. The drawings were received on 05 January 2006. These drawings are accepted.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following is suggested:

--DISK CARTRIDGE WITH CENTER CORE HAVING LARGE-DIAMETER PORTION WITH THICKNESS LARGER THAN THAT OF CARTRIDGE LINER--.

4. The disclosure is objected to because of the following informalities:

a. In line 2 of claim 6, "forms entire" should be changed to --forms an entire-- for better clarity.

b. In line 2 of claim 7, "said top surface of said center core" should be changed to --said top-most surface of said center core-- in order to more clearly refer back to that set forth in lines 10-11 of independent claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3-5, 9, and 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In lines 14-15 of claim 3, "wherein the large-diameter portion is always in contact with an interior lower surface of the shell" is indefinite as it is misdescriptive of the disclosure, which details/shows that the large-diameter portion **13b** will always be in contact with an interior lower surface of the shell **2** when the cartridge **C** is oriented as depicted in FIG. 1, for instance. If the cartridge **C** were flipped upside down in FIG. 1, than the large-diameter portion **13b** will no longer be in contact with the interior lower surface of the shell **2** and a press plate **6** would engage an annular protrusion **12** of an upper shell **1**. See lines 2-5 on page 4, for instance, which detail "upward movement" and engagement of the "annular protrusion **12**".

b. In line 15 of claim 3, "the shell" is indefinite because it lacks clear and/or positive antecedent basis.

c. Claims 4, 5, 9, and 12-16 inherit the indefiniteness associated with independent claim 3 and stand rejected as well.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Meguro et al. (US 6,433,963).

Meguro teaches a disk cartridge (1) comprising a disk medium (5) fixedly attached on a center core (11); a casing (6), in which the disk medium is rotatably enclosed, the casing comprising a spindle hole (26) through which the center core is exposed to the exterior; and a dust-removing liner (102) fixed on an interior surface of the casing; wherein the center core comprises a large-diameter portion (14) with an outside diameter greater than the inside diameter of the spindle hole of the casing (lines 23-26 in column 4, for instance, and as shown in FIG. 19, for instance), and a thickness greater than that of the dust-removing liner (as shown in FIG. 19, for instance), and a disk surface (adjacent 12) on which the disk medium is fixedly attached; and a small-

diameter portion (between 14 and 17 in FIG. 19, for instance) which has an outside diameter smaller than the inside diameter of the spindle hole of the casing (as shown in FIG. 19, for instance), and which is formed on a side, opposite from the disk surface, of the large-diameter portion (as shown in FIG. 19, for instance) so that it is exposed to the exterior through the spindle hole of the casing (as shown in FIG. 19, for instance), wherein the large-diameter portion is always in contact with an interior lower surface of the shell (as shown in FIG. 19, for instance, i.e., in so far as this limitation is definite and understood as detailed in paragraph 6a, supra) [as per claim 3]; wherein the disk medium comprises a magnetic disk medium (lines 39-40 in column 3, for instance) [as per claim 4]; and wherein the dust-removing liner has a center hole (108), arranged approximately concentrically with the spindle hole of the casing (as shown in FIG. 18, for instance), which has an insider diameter greater than the outside diameter of the large-diameter portion of the center core (as shown in FIG. 19, for instance) [as per claim 5].

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meguro et al. (US 6,433,963) in view of Takahashi (US 6,366,553).

Meguro teaches the disk cartridge as detailed in paragraph 8, supra. Meguro, however, remains silent as to "wherein a member with a high sliding property is bonded on the bottom surface of the large-diameter portion of the center core" as per claim 13, "wherein the member with a high sliding property is a high polymer PE" as per claim 14, "wherein a member with a high sliding property is bonded on a portion of the interior surface of a lower shell of the casing, which contacts the bottom surface of the large-diameter portion of the center core" as per claim 15, and "wherein the member with a high sliding property is a high polymer PE" as per claim 16.

Official notice is also taken of the fact that it is notoriously old and well known in the disk cartridge art to provide a high polymer PE member with a high sliding property at a contact location for the purpose of reducing wear, as shown by Takahashi, for instance. See lines 39-45 in column 7, for instance. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had a high polymer PE member with a high sliding property as taught/suggested by Takahashi, for instance, bonded on the bottom surface of the large-diameter portion of the center core of Meguro, and to have had a high polymer PE member with a high sliding property as taught/suggested by Takahashi, for instance, bonded on a portion of the interior surface of a lower shell of the casing of Meguro, which contacts the bottom surface of the large-diameter portion of the center core of Meguro. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had a high polymer PE member with a high sliding property as taught/suggested by Takahashi, for instance, bonded on the bottom surface of the large-diameter portion of the center core of Meguro, and to have had a high polymer PE member with a high sliding property as taught/suggested by Takahashi, for instance, bonded on a portion of the interior surface of a lower shell of the casing of Meguro, which contacts the bottom surface of the large-diameter portion of the center core of Meguro since such reduces wear as shown by Takahashi, for instance.

11. Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meguro et al. (US 6,433,963) in view of Atkinson et al. (US 5,650,898).

Meguro teaches the disk cartridge as detailed in paragraph 8, supra, further wherein the dust-removing liner comprises a lower dust-removing liner (102) positioned on the lower interior surface of the casing (as shown in FIG. 19, for instance). Meguro, however, remains silent as to "wherein the thickness of the lower dust-removing liner is in a range of 0.1 mm to 0.3 mm, and the thickness of the large-diameter portion of the center core is in a range of 0.5 mm to 2 mm."

Official notice is taken of the fact that it is notoriously old and well known in the disk cartridge art to modify the parameters of disk cartridge components during the course of routine optimization/experimentation, as shown by Atkinson, for instance. See lines 57-64 in column 3, for instance. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the

thickness of the lower dust-removing liner of Meguro be in a range of 0.1 mm to 0.3 mm, and the thickness of the large-diameter portion of the center core of Meguro be in a range of 0.5 mm to 2 mm. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the thickness of the lower dust-removing liner of Meguro be in a range of 0.1 mm to 0.3 mm, and the thickness of the large-diameter portion of the center core of Meguro be in a range of 0.5 mm to 2 mm since such ranges, absent any criticality (i.e., unobvious and/or unexpected result(s)), are generally achievable through routine optimization/ experimentation as shown by Atkinson, for instance, and since discovering the optimum or workable ranges, where the general conditions of a claim are disclosed in the prior art, involves only routine skill in the art, *In re Aller*, 105 USPQ 233 (CCPA 1955). Moreover, in the absence of any criticality (i.e., unobvious and/or unexpected result(s)), the parameters set forth above would have been obvious to a person having ordinary skill in the art at the time the invention was made, *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

12. Claims 1-2 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art FIGS. 3-4 and detailed description thereof in view of Meguro et al. (US 6,433,963).

Applicant's admitted prior art FIGS. 3-4 and detailed description thereof teaches a disk cartridge (C) comprising a disk medium (4) fixedly attached to a center core (3); a casing (includes 1 and 2, for instance) in which the disk medium is rotatably enclosed,

the casing comprising a spindle hole (2c) through which the center core is exposed to an exterior of the disk cartridge; a dust-removing liner (5) fixed on an interior surface of the casing; wherein the center core comprises a large-diameter portion (3) that has an outside diameter (as shown in FIG. 4, for instance) and a thickness greater than that of the dust-removing liner (as shown in FIG. 4, for instance), and where the disk medium is fixedly attached to the center core (as shown in FIG. 4, for instance), and where the disk medium is disposed entirely above the center core (as shown in FIG. 4, for instance), and wherein an entire top-most surface of the large-diameter portion forms an entire top-most surface of the center core (as shown in FIG. 4, for instance) [as per claims 1 and 8]; wherein the disk medium comprises a magnetic disk medium (line 22 on page 2, for instance) [as per claim 2]; wherein the top surface of the large-diameter portion forms an entire top surface of the center core (as shown in FIG. 4, for instance), the entire top surface of the center core is substantially straight (as shown in FIG. 4, for instance), and the disk medium is fixedly attached to the top-most surface of the center core (as shown in FIG. 4, for instance) [as per claim 6]; and wherein the disk cartridge further comprises a press plate (6), which is fixedly attached to the top-most surface of the center core (as shown in FIG. 4, for instance), and wherein an annular press portion (6a) of the press plate is pressed against the magnetic medium (as shown in FIG. 4, for instance) [as per claim 7]. Applicant's admitted prior art, however, remains silent as to the outside diameter of the large-diameter portion being "greater than the inside diameter of the spindle hole of said casing" as per claims 1-2 and 6-8, "wherein said center core is T shaped" as per claim 8.

Meguro teaches a center core (11) comprising a large-diameter portion (14) with an outside diameter greater than an inside diameter of a spindle hole (26) of a casing (6), wherein the center core is T shaped (as shown in FIG. 19, for instance) in the same field of endeavor for the purpose of limiting disk movement during handling (lines 35-39 in column 10, for instance). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the outside diameter of the large-diameter portion of Applicant's admitted prior art be greater than the inside diameter of the spindle hole of the casing, wherein the center core is T shaped, as taught by Meguro. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the outside diameter of the large-diameter portion of Applicant's admitted prior art be greater than the inside diameter of the spindle hole of the casing, wherein the center core is T shaped, as taught by Meguro since such limits disk movement during handling.

13. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art FIGS. 3-4 and detailed description thereof in view of Meguro et al. (US 6,433,963) as applied to claim 1 above, and further in view of Kumakura (US 6,118,618).

Applicant's admitted prior art in view of Meguro teaches the disk cartridge as detailed in paragraph 12, supra. Applicant's admitted prior art in view of Meguro, however, remains silent as to "wherein the outside diameter of the large-diameter

portion of the center core is 0.5 mm to 2 mm greater than the inside diameter of the spindle hole of a lower shell of the casing" as per claim 10, and "wherein the outside diameter of the large-diameter portion of the center core is 0.5 mm to 1 mm greater than the inside diameter of the spindle hole of a lower shell of the casing" as per claim 11.

Official notice is taken of the fact that it is notoriously old and well known in the disk cartridge art to modify the parameters of disk cartridge components during the course of routine optimization/experimentation, as shown by Kumakura, for instance. See lines 59-62 in column 8, for instance. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the outside diameter of the large-diameter portion of the center core of Applicant's admitted prior art in view of Meguro be 0.5 mm to 2 mm greater than the inside diameter of the spindle hole of a lower shell of the casing, and the outside diameter of the large-diameter portion of the center core of Applicant's admitted prior art in view of Meguro be 0.5 mm to 1 mm greater than the inside diameter of the spindle hole of a lower shell of the casing. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had have had the outside diameter of the large-diameter portion of the center core of Applicant's admitted prior art in view of Meguro be 0.5 mm to 2 mm greater than the inside diameter of the spindle hole of a lower shell of the casing, and the outside diameter of the large-diameter portion of the center core of Applicant's admitted prior art in view of Meguro be 0.5 mm to 1 mm greater than the inside diameter of the spindle hole of a lower shell of the casing since such ranges, absent any criticality (i.e., unobvious and/or unexpected

result(s)), are generally achievable through routine optimization/experimentation, as shown by Kumakura, for instance, and since discovering the optimum or workable ranges, where the general conditions of a claim are disclosed in the prior art, involves only routine skill in the art. See *In re Aller*, supra. Moreover, in the absence of any criticality (i.e., unobvious and/or unexpected result(s)), the parameters set forth above would have been obvious to a person having ordinary skill in the art at the time the invention was made. See *In re Woodruff*, supra.

14. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's Admitted prior art FIGS. 3-4 and detailed description thereof in view of Meguro et al. (US 6,433,963).

Applicant's admitted prior art FIGS. 3-4 and detailed description thereof teaches a disk cartridge (C) comprising a disk medium (4) fixedly attached on a center core (3); a casing (includes 1 and 2, for instance), in which the disk medium is rotatably enclosed (as shown in FIG. 4, for instance), the casing comprising a spindle hole (2c) through which the center core is exposed to the exterior (as shown in FIG. 4, for instance); and a dust-removing liner (5) fixed on an interior surface of the casing; wherein the center core comprises a small-diameter portion which has an outside diameter (a) smaller than the inside diameter (c) of the spindle hole of the casing (as shown in FIG. 4, for instance), and which is formed on a side, opposite from the disk surface, so that it is exposed to the exterior through the spindle hole of the casing (as shown in FIG. 4, for

instance) [as per claim 3]; wherein the dust-removing liner is straight (as shown in FIG. 4, for instance) [as per claim 9].

Applicant's admitted prior art, however, remains silent as to the center core further comprising "a large-diameter portion with an outside diameter greater than the inside diameter of the spindle hole of said casing, and a thickness greater than that of said dust-removing liner, ... wherein the large-diameter portion is always in contact with an interior lower surface of the shell" as per claims 3 and 9.

Meguro teaches a center core (11) further comprising a large-diameter portion (14) with an outside diameter greater than an inside diameter of a spindle hole (26) of a casing (6), and a thickness greater than that of a dust-removing liner (102), wherein the large-diameter portion is always in contact with an interior lower surface of the shell (as shown in FIG. 19, for instance, i.e., in so far as this limitation is definite and understood as detailed in paragraph 6a, supra) in the same field of endeavor for the purpose of limiting disk movement during handling (lines 35-39 in column 10, for instance). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the center core of Applicant's admitted prior art further comprise a large-diameter portion with an outside diameter greater than the inside diameter of the spindle hole of the casing, and a thickness greater than that of the dust-removing liner, wherein the large-diameter portion is always in contact with an interior lower surface of the shell as taught by Meguro. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the center core of Applicant's admitted prior art further comprise a large-diameter portion with an

outside diameter greater than the inside diameter of the spindle hole of the casing, and a thickness greater than that of the dust-removing liner, wherein the large-diameter portion is always in contact with an interior lower surface of the shell as taught by Meguro since such limits disk movement during handling.

Response to Arguments

15. Applicant's arguments filed 05 January 2006 with respect to claims 10-16 have been considered but are moot in view of the new ground(s) of rejection. As requested by applicant, references have been included in the rejections, supra, corresponding to these claims in support of statements of that which is notoriously old and well known in the art.

16. Applicant's arguments filed 05 January 2006 have been fully considered but they are not persuasive.

The applicant argues that Meguro does not teach "wherein the large-diameter portion is always in contact with an interior lower surface of the shell." This argument, however, is not found to be persuasive as Meguro does teach a large-diameter portion (14) always in contact with an interior lower surface of a shell (22), as shown in FIG. 19, for instance, in so far as this limitation is definite and understood as detailed in paragraph 6a, supra.

The applicant also asserts that Meguro does not teach "wherein... said entire top surface of said center core is substantially straight, and the disk medium is fixedly

attached to the top-most surface of the center core." This argument, however, is not found to be persuasive as Meguro has not been used in the rejection(s), supra, for this teaching. Applicant's admitted prior art FIGS. 3-4 and detailed description thereof teaches an entire top surface of a center core (3) being substantially straight (as shown in FIG. 4, for instance), and the disk medium is fixedly attached to the top-most surface of the center core (as shown in FIG. 4, for instance).

The applicant further questions that "it is unclear; how the thickness of the flange 14 would limit the movement of the disk." This argument, however, is not found to be persuasive as the thickness of the flange 14 of Meguro would limit downward movement of the disk (emphasis added).

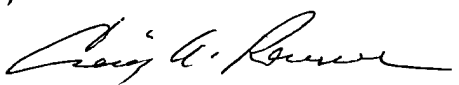
The applicant lastly maintains that "the combined teachings of the APA and Meguro fail to teach or suggest 'an entire top-most surface of the large-diameter portion forms an entire top-most surface of the center core.'" This argument, however, is not found to be persuasive as Applicant's admitted prior art FIGS. 3-4 and detailed description thereof an entire top-most surface of a large-diameter portion (3) forms an entire top-most surface of a center core (3) as shown in FIG. 4, for instance, and as detailed in the rejection in paragraph 12, supra

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Renner
Primary Examiner
Art Unit 2652

CAR